

ORIGINAL

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

ORIGINAL  
FILE

In the Matter of )  
 )  
Amendment of Section 90.239 )  
of the Commission's )  
Rules to Adopt Permanent )  
Regulations for Automatic Vehicle )  
Monitoring Systems )

RM No. 8013

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OFFICE OF THE SECRETARY

**REPLY COMMENTS OF PINPOINT COMMUNICATIONS, INC.**

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## **SUMMARY**

The majority of comments on the Petition for Rulemaking of North American Teletrac and Location Technologies, Inc. ("PacTel"), strongly oppose grant of the requested automatic vehicle monitoring ("AVM") rule changes. Indeed, even the comments of the principal supporter of the PacTel petition, MobileVision ("Ameritech"), actually confirm the arguments Pinpoint Communications, Inc. ("Pinpoint"), set forth in its Opposition to the PacTel Petition.

First, Ameritech's comments and technical analysis reinforce that the AVM technology both it and PacTel intend to use is interference intolerant, inadequately designed, out of date, and a poor spectrum neighbor. In fact, Ameritech actually demonstrates that this technology is highly susceptible to interference from the myriad real-world users sharing the 902-928 MHz band. Ameritech, like the petitioner, blithely ignores the public interest reasons for this shared allocation. The principal technical arguments of both Ameritech and PacTel can be reduced to a plea for exclusivity on the basis of their system's fragility. However, the Commission should explore methods by which wideband AVM systems can coexist with other AVM systems and all other users of the band before making inferior technology the standard. More robust systems are not only possible -- as Pinpoint's own design demonstrates -- their promotion is in the public interest.

Second, the comments make plain that the current shared-spectrum and multiple-entry environment encourages considerable industry interest. PacTel and Ameritech's

claim that exclusivity is required to stimulate further investment is belied by their own investments detailed in the record. The requested rule changes may make it easier for these two entities to deploy their systems, but on-going innovation and investment in other spectrum efficient and robust AVM technologies would be chilled. Consistent with long-standing Commission policies, competition and the marketplace, not regulatory fiat, should dictate which AVM technologies survive, whether those of Ameritech, PacTel, Pinpoint or others.

Finally, contrary to the bizarre claim of Ameritech that entities that have not yet applied for AVM licenses "will likely be speculators," it and PacTel have been the most egregious of speculators. Both entities have secured hundreds of licenses, including at least one in each of the top-50 markets, yet only PacTel has built systems, and then in merely four to six cities. A grant of exclusivity to PacTel and Ameritech would therefore freeze out competition throughout most of the United States by converting their license grant dates into cut-off dates without ensuring the introduction of AVM service. Their speculative ambitions are further demonstrated by their unfounded request for an additional five years to construct. Speculation such as this would simply not be rewarded in a shared spectrum environment; this is an important additional reason why permanent AVM rules should support competitive multiple entry, as under the current rules.

Ameritech and PacTel fail to demonstrate why the requested relief is necessary, as Section 7 of the Communications Act requires. Accordingly, the Commission should deny the PacTel Petition and maintain a multiple entry environment.

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**Reply Comments of Pinpoint Communications, Inc.**

Pinpoint Communications, Inc. ("Pinpoint"), by its attorneys, hereby replies to the comments submitted concerning the Petition for Rulemaking ("PacTel Petition") filed by North American Teletrac and Locations Technologies, Inc. ("PacTel"), in the above-captioned proceeding. As Pinpoint demonstrated in its Opposition, the Pactel Petition fails to support permanent AVM rules of the sort Pactel proposed. The filings of the other parties confirm that PacTel's proposals should be rejected by the Commission. In particular, the comments of the principal supporter of the PacTel proposal, MobileVision ("Ameritech"), only serve to reinforce that the public interest would not be served by the grant of the PacTel petition.

At bottom, PacTel and Ameritech call for exclusivity to hide their systems' fragility and inefficiency. Rather than lock-in these inferior technologies, and reward these parties' strategic speculation in licenses, the Commission should continue to provide incentives for the development of efficient, robust technologies that can operate

in shared spectrum. This would continue to permit multiple entry with technological and economic competition to the benefit of the public.

Pinpoint emphasizes that it does not oppose the deployment of AVM systems by Ameritech and PacTel in the 902-928 MHz band, provided that they are sufficiently robust to operate in the current radio environment. By its filing in this proceeding, Pinpoint does not ask the Commission to choose its technology over that of PacTel and Ameritech or any other entity. Rather, Pinpoint's contention is that PacTel and Ameritech have failed to meet their burden under Section 7 of the Communications Act as the proponents of rules that would foreclose the development of new and existing AVM technologies.<sup>1</sup>

#### **I. PACTEL AND AMERITECH'S AVM TECHNOLOGY IS EXTREMELY FRAGILE**

As Pinpoint demonstrated in its Opposition, the Teletrac system is inadequately designed, intolerant of interference, and a poor spectrum neighbor.<sup>2</sup> Thus, for all practical purposes, its system's extreme fragility is the basis on which PacTel seeks exclusivity, despite the fact that, in the real world, the 902-928 MHz band is already shared by a multiplicity of services, including industrial, scientific and medical ("ISM") devices, government radiolocation, other AVM technologies, amateur radio and

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<sup>1</sup> 47 U.S.C. § 157(a) (1988).

<sup>2</sup> Opposition of Pinpoint Communications, Inc., RM No. 8013, filed July 23, 1992, at 14-19 ("Opposition").

numerous Part 15 devices. PacTel's principal supporter, Ameritech, presents no additional grounds for granting exclusivity to "wideband" AVM systems. Indeed, the Ameritech comments make it even more apparent just how fragile the technology utilized by both it and PacTel really is.

Ameritech's presentation is premised on the assertion that "it is extremely difficult for AVM systems to tolerate the interference that already exists on AVM frequency bands."<sup>3</sup> This observation, however, is simply not universally applicable, even with respect to wideband hyperbolic multilateration ("HML") systems. As Pinpoint emphasized in its Opposition, it specifically designed its own system to be robust enough to tolerate current and anticipated interference in the 902-928 MHz band. Ameritech's statement, therefore, can be reduced to an observation that the fragile technology that it -- and PacTel -- intend to use at 902-928 MHz, cannot tolerate the interference that it finds there.

Ameritech, at least, concedes the scope of this fragility more candidly than did the PacTel petition:

Any co-frequency device or signal within the 8 MHz bandwidth set aside for AVM operations will interfere with AVM operations, whether the interference is narrowband or wideband. Specifically, the sources of interference experienced by AVM systems are industrial, scientific and medical equipment, amateur radio operators, wireless local area networks ('LANs') and tag readers,

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<sup>3</sup> Comments of MobileVision in Support of the Teletrac Petition for Rulemaking, RM No. 8013, filed July 23, 1992, at 7 ("Comments of Ameritech").

e.g., toll booth operators and the anti-shoplifting clothing tags.<sup>4</sup>

In fact, the interference threat is not limited to other users of the band: Ameritech discloses that even its own "AVM operations can cause self-induced interference."<sup>5</sup> Thus, both PacTel and Ameritech admit not only that their systems require access to virgin spectrum (or, at least, spectrum restored to virginity) to provide even their limited functionality, but -- incredibly -- that interference will still be a problem even in an otherwise unoccupied band.

Given this, the proponents of drastic AVM rule changes -- including exclusivity and establishing their designs as the AVM baseline -- fail to face up to the full implications of the shared nature of the 902-928 MHz band. PacTel's interference analysis did not adequately describe the practical interference problems that its system would experience given the various other radio techniques currently employed in the band. Ameritech confirms the limited scope of the petition's analysis, noting that PacTel did not even address situations other than extremely artificial "single sources of

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<sup>4</sup> Comments of Ameritech, Attachment A, at 10 ("Technical Appendix") (emphasis added).

<sup>5</sup> Comments of Ameritech, Technical Appendix at 10. In its Opposition, Pinpoint questioned the need for narrowband "forward links" at 904 and 925 MHz. Opposition at 20-22. Ameritech and Location Services both support PacTel's request for such links. See Comments of Ameritech at 14; Comments of Location Services, RM No. 8013, filed July 23, 1992, at 4-5. In response, Pinpoint reiterates that there are other nearby allocations with potential for narrowband forward links. Indeed, given the almost fanatic desire of PacTel and Ameritech to clear out the sub-bands for their own AVM operations, it is inexplicable and inconsistent for them to request such links. More importantly, if the Commission desires to promote a shared spectrum environment in the 902-928 MHz band, as Pinpoint submits it should, such links will most certainly serve to frustrate its objectives.



interference."<sup>6</sup> However, there are numerous real-world potential sources of interference that any 900 MHz AVM systems must accommodate.

Initially, PacTel and Ameritech's systems would appear to be unable to share spectrum with co-frequency services now primary to AVM, namely ISM applications and government radiolocation.<sup>7</sup> Given the fragility of Ameritech's and PacTel's technology, it is reasonable to assume that ISM uses, at the least, would present a substantial threat. This is particularly true because the rules do not limit the amount of energy that ISM devices may emit between 902-928 MHz nor control the narrowly operating frequency of ISM equipment.<sup>8</sup>

Moreover, as Ameritech observes, in the 902-928 MHz band, a "common source of ambient noise is Part 15 Users."<sup>9</sup> Part 15 devices are increasingly used throughout the band, particularly in light of the fact that the Commission has in the past three years completed a series of rulemakings in conjunction with its rewrite of Part 15 in which it facilitated the expanded use of unlicensed devices at 902-928

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<sup>6</sup> Comments of Ameritech, Technical Appendix at 16.

<sup>7</sup> Ameritech merely notes that ISM uses are "sources of interference." Id., Technical Appendix at 10.

<sup>8</sup> 47 C.F.R. § 18.305(a) (1991). Indeed, it is Pinpoint's understanding that the peak emissions of some ISM heating equipment, for example, may drift throughout much of the ISM allocation during operation because Part 18 of the FCC Rules does not require the same degree of frequency stability imposed on most communications transmitters by other parts of the rules.

<sup>9</sup> Comments of Ameritech, Technical Appendix at 16.

MHz.<sup>10</sup> Ameritech openly acknowledges that such low power Part 15 emissions can raise the interference level seen by receive sites, thereby making co-channel operation of its AVM system even more difficult.<sup>11</sup>

Amateur operations are also prevalent at 902-928 MHz. Ameritech's technical analysis concludes that these users, too, pose serious interference problems to the AVM technology employed by PacTel and Ameritech. Indeed, Ameritech indicates that a single amateur signal -- apparently the only one measured by that company -- would pose a tremendous threat to its own AVM transmissions.<sup>12</sup>

Part 15 and amateur operations are secondary to non-government AVM transmissions, and the Commission, theoretically, could determine that the public interest required it to prohibit such operations prospectively. But both services are using radio to meet important needs and have built a substantial user community operating at 902-928 MHz, particularly the Part 15 users and manufacturers for whom the allocation was just enhanced. Before the Commission takes drastic steps foreseeably leading toward prohibition, the public interest requires the agency to

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<sup>10</sup> See, e.g., Revisions of Part 15, 4 F.C.C. Rcd 3493, 3502 (1989) (authorizing the operation of Part 15 devices in 902-928 MHz band generally and adopting more lenient emission limits for certain intentional radiators), recon. 5 F.C.C. Rcd 3492, 3493 (1990) (denying petition to delay introduction of new Part 15 devices into 902-905 MHz indefinitely); Spread Spectrum Systems, 5 F.C.C. Rcd 4123, 4123 (1990) (amending 47 C.F.R. § 15.247 to "broaden the opportunities for development and use of . . . important [spread spectrum] technologies").

<sup>11</sup> Comments of Ameritech, Technical Appendix at 16-17.

<sup>12</sup> See, e.g., id., Technical Appendix at 12 & n.6.

examine whether other AVM solutions might be more compatible with the existing use of the band.

Not only is the PacTel and Ameritech technology incapable of interservice sharing, both proponents of exclusivity claim their systems preclude sharing with other wideband AVM systems such as Pinpoint.<sup>13</sup> At the same time, however, Ameritech admits that a "complex combination of techniques" such as "CDMA, TDMA, and FDMA" could help overcome problems of self-induced interference.<sup>14</sup> If Ameritech is referring to a rigorous and spectrally efficient application of TDMA, then it may, in fact, be revealing that there is a basis for operational compatibility among different HML AVM users.<sup>15</sup> Regardless of what Ameritech is referring to, Pinpoint believes that there are TDMA techniques that could offer this accommodation and should be explored fully. Accordingly, it is premature to conclude, as Ameritech and PacTel do, that multiple wideband systems operating on the same frequency cannot coexist.<sup>16</sup>

Sharing with other services, or with other AVM systems, might be easier had Ameritech and PacTel adopted more state-of-the-radio-art designs. As Pinpoint noted in its Opposition, however, PacTel chose not to improve its system, despite recognizing

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<sup>13</sup> Petition for Rulemaking of North American Teletrac and Location Technologies, Inc., RM No. 8013, filed July 23, 1992, at 23-26 ("PacTel Petition"); Comments of Ameritech at 11.

<sup>14</sup> Comments of Ameritech, Technical Appendix at 10-11.

<sup>15</sup> Pinpoint suspects, however, that Ameritech uses the multiple access terms loosely. For example, "TDMA" may consist of no more than permitting a narrowband emission to be made while the wideband transmitters are temporarily turned off.

<sup>16</sup> See Comments of Ameritech at 11. Certainly the Commission should not grant the PacTel petition on the basis of such assumed incompatibility.

several obvious avenues. PacTel and Ameritech have failed to explain adequately why these alternatives were not explored. Symptomatic of this failure to incorporate elements of a more modern technology, Ameritech cites to certain demonstrations in Philadelphia that purportedly established that lengthening the pulse duration did not significantly improve performance.<sup>17</sup> However, the study relied upon by Ameritech is nearly 20 years old and tested only relatively narrowband ranging systems (200 kHz and less).<sup>18</sup> Ameritech offers no proof that a wideband system employing more spectrum (4-16 MHz) would necessarily behave in the same fashion.<sup>19</sup>

In sum, it is clear that Ameritech's technical analysis does little more than confirm just how poor its technology and that of PacTel really are for operating in a shared band.<sup>20</sup> Those entities' cynical request for exclusivity blithely ignores the Commission's public interest determinations in setting up an allocation shared among ISM equipment, government radiolocation, AVM, Part 15 devices, and amateurs. As

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<sup>17</sup> Id., Technical Appendix at 17-18.

<sup>18</sup> See Mitre Corporation, Urban Field Tests of Four Vehicle Location Techniques, PB-211 732, at 4-5 (Apr. 1973) (prepared for the Urban Mass Transportation Administration).

<sup>19</sup> Other portions of the Ameritech technical analysis may be similarly outdated. Indeed, when discussing the "technological developments since 1974," Ameritech points primarily to elements of very large scale integration that, by and large, have no direct connection with the robustness of the vehicle location function of its system. See Comments of Ameritech, Technical Appendix at 7-9.

<sup>20</sup> In short, PacTel's petition and Ameritech's supporting comments merely demonstrate that the two RBOCs have over 1100 licenses for a system that does not, and cannot, work well or at all in a shared environment. Rather than establishing the case for exclusivity, the two companies' filings suggest that the agency should initiate hearings to determine whether the public interest, convenience and necessity is served by their continuation as Commission licenses. If the FCC finds credible the technical submissions proffered by PacTel and Ameritech -- detailing a frail, limited capacity system -- the Commission should consider revoking the PacTel and METS/MobileVision licenses.

Amtech Corporation ("Amtech") points out in its comments, grant of PacTel's request will inevitably lead to "widespread and continual electromagnetic compatibility problems or further regulatory confrontations."<sup>21</sup> This would clearly be adverse to the public interest. The Commission should not, therefore, grant the requests of PacTel and Ameritech to convert fragility and operational incompatibility into virtues.

## **II. THE PERMANENT AVM RULES ESPOUSED BY AMERITECH AND PACTEL WOULD FORECLOSE THE ENTRY OF AVM PIONEERS THAT DEVELOP MORE EFFICIENT AND ROBUST TECHNOLOGY**

The comments of Ameritech and the petition of PacTel attempt to convince the FCC that the market and technologies served by the interim rules have passed away and that new rules are needed to lead the AVM marketplace into the future. In particular, both Ameritech and PacTel argue that permanent rules like those they support are necessary if there is to be further investment in AVM.<sup>22</sup> The alternative, they prophesy, is that the public will be denied the benefits of AVM service.

The comments make clear that just the opposite is true. Consistent with other Commission actions,<sup>23</sup> the current shared spectrum environment established by the

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<sup>21</sup> See Opposition to Petition for Rulemaking of Amtech, RM No. 8013, filed July 23, 1992, at 42 n.87 ("Opposition of Amtech").

<sup>22</sup> PacTel Petition at 4; Comments of Ameritech at 2.

<sup>23</sup> See, e.g., Domestic Fixed Satellite Service, 88 F.C.C.2d 318, 322-323 (1981) ("We have sought to impose only the minimal [technical] regulations needed to insure that all proposed satellites can be accommodated in order to satisfy demand and permit new entry. . . . [W]e believe our flexible, multiple entry approach has proven to be a reliable tool for achieving full and efficient use of the geostationary satellite orbit and frequencies associated with it."); Allocation of the 849-851/894-896 MHz (continued...)

1974 interim rules has facilitated multiple and competitive entry and has fostered the development of AVM. If this is a "watershed," it is because the wisdom of the regulatory approach adopted in 1974 is about to pay off through the availability of a variety of AVM services offered through diverse technologies.

Both Ameritech and PacTel, in fact, concede that the existing regulatory regime has fostered considerable AVM investment and innovation. They, themselves, have each spent tens of millions of dollars on AVM technology and systems under that regime.<sup>24</sup> PacTel explains that it has developed and implemented its allegedly "innovative" systems "under those interim rules."<sup>25</sup> Similarly, Ameritech notes that "the flexibility of the interim rules has allowed licensees to make substantial advances in location technology."<sup>26</sup>

For its part, Pinpoint has also spent several million dollars on the design and development of a robust AVM technology.<sup>27</sup> In addition, the comments reflect substantial investment that has or will presently be made by other AVM service

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<sup>23</sup>(...continued)

Bands, 5 F.C.C. Rcd 3861 (1990) (adopting a flexible, open-entry approach in which the applicants chose the appropriate technology).

<sup>24</sup> PacTel Petition at 1; Comments of Ameritech at 3.

<sup>25</sup> PacTel Petition at 3.

<sup>26</sup> Comments of Ameritech at 8.

<sup>27</sup> Opposition at 3.

providers<sup>28</sup> and AVM users.<sup>29</sup> It is reasonable to assume that all of this investment, with the possible exception -- for reasons as described below -- of that made by PacTel and Ameritech, was predicated on the continuation of the current shared-spectrum environment.

Accordingly, the comments support the conclusion that a shared spectrum, multiple entry regulatory environment can spur considerable interest and investment in various AVM applications. Apart from the bare claims of PacTel and Ameritech, the Commission is offered no basis for concluding that investment in both AVM technologies and systems would subside if the existing multiple entry, shared-spectrum environment were to continue. When subjected to close scrutiny, Ameritech's and PacTel's allegations are thus exposed for what they are: self-serving attempts to foreclose other entrants from the 902-928 MHz band, particularly those that have developed alternative wideband systems that can operate in the current environment and even coexist with other co-channel wideband systems. At bottom, the only investment in AVM that PacTel and Ameritech are concerned with is that in the deployment of

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<sup>28</sup> See, e.g., Opposition of Amtech at 4-6; Comments of Mark IV IVHS Division, RM No. 8013, filed July 23, 1992, at 1-2 ("Comments of Mark IV"); Comments of Southwestern Bell Corporation, RM No. 8013, filed July 23, 1992, at 1-2 ("Comments of SWBell").

<sup>29</sup> See, e.g., Comments of Conrail, RM No. 8013, filed July 21, 1992, at 2 (North American railroads to invest over \$300 million in AVM systems through end of 1994); Comments of the American Trucking Associations, RM No. 8013, filed July 22, 1992, at 1, 3 (AVM technology standard has been adopted for the over one million for-hire trucks engaged in interstate shipping, with over 30,000 trucks already equipped); Comments of City of Los Angeles Department of Airports, RM No. 8013, filed July 23, 1992, at 2 (Department has invested over \$2 million to date in AVM systems).

their systems, provided the Commission gives them exclusive spectrum and establishes their out-of-date, fragile technology as the 902-928 MHz wideband standard.<sup>30</sup>

Concerning the statutorily recognized public interest in the investment in new technologies and services,<sup>31</sup> Pinpoint submits that adoption of the requested exclusive licensing scheme would serve to stifle investment in innovative and spectrum-efficient AVM applications and slow their introduction. If PacTel and Ameritech were to become de facto exclusive AVM licensees nationwide they would have little direct incentive to improve their technology through further research and development once they have invested significant capital in their current technology, despite its inferiority.<sup>32</sup> Moreover, the extended implementation schedules advocated by both PacTel and Ameritech would actually discourage deployment of new AVM systems by the duopolists. Concomitantly, if other entities' only opportunity to reap the benefits of investment they might make in new AVM technologies is to deal with PacTel and Ameritech rather than operate licensed systems, few, if any, are likely to make the commitment.

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<sup>30</sup> See, e.g., PacTel Petition at 4 ("With the adoption of the permanent rules Teletrac recommends, . . . millions of customers can benefit from Teletrac's state of the art AVM technology"). As explained below, the requested rules would give Ameritech and PacTel a duopoly, at the very least, in the top 50 markets in the United States, throughout 89 percent of the currently utilized 900 MHz AVM allocation. This fact, combined with the exclusivity they seek, makes it highly unlikely that investment of the sort fostered by the existing environment would survive the adoption of permanent rules.

<sup>31</sup> 47 U.S.C. § 157(a) (1988).

<sup>32</sup> Absent competition under a PacTel/Ameritech duopoly, technological improvements would necessitate replacement of the existing systems with little, if any, countervailing increase in market share.



Apart from the contrary views of PacTel and Ameritech, the record reflects a broadly supported call for continuation of the Commission's policies of fostering multiple and competitive entry and technical flexibility in a shared spectrum environment. The Allen-Bradley Company ("A-B"), a developer of AVM systems using reader/tag techniques, for example, urges the Commission to "not . . . adopt policies and rules that favor one, interference-intolerant AVM technology where the effect will be to retard the development and use of other AVM technologies already proven to serve the public interest."<sup>33</sup> Mark IV IVHS Division ("Mark IV"), an AVM service provider employing reader/tag technologies, supports the "adoption of permanent rules for the AVM service which will promote and expand the diversity of AVM services and the opportunities for the developers of those new services and facilities to obtain spectrum in the 902-928 MHz band."<sup>34</sup> Mark IV goes on to observe that "premature adoption of rules too closely tailored to any particular technology or service proposal . . . will preclude opportunities for the development of emerging AVM technologies and services."<sup>35</sup>

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<sup>33</sup> Comments of A-B, RM-8013, filed July 23, 1992, at 6.

<sup>34</sup> Comments of Mark IV at 2.

<sup>35</sup> Id. at 4. Southwestern Bell Corporation ("SWBell"), which is investigating wideband AVM technologies differing from those of Ameritech and PacTel, argues against the preclusion of "new or additional competitors who might offer a more efficient technology and use of the licensed spectrum. Comments of SWBell at 6. The comments of Location Services evidence a recognition that AVM technologies are not at all mature. Because "changes are inevitable as new technology is introduced to commercial operations," Location Services supports waivers of any AVM type acceptance rules for 18 months after new equipment is introduced. Comments of Location Services at 3.

A number of AVM users also strongly support continued flexibility in the AVM regulatory scheme. For example, the Association of American Railroads ("AAR") notes that "[b]ecause AVM systems are still evolving, flexible rules that do not lock-in any particular technology would continue to serve the public interest."<sup>36</sup> Amtech Logistics Corporation, which manages a system of automated tracking of transportation equipment, opposes the PacTel petition, in part, because the shared use of the 902-928 MHz band "encourages the development of multiple competitive products in response to the needs of the marketplace."<sup>37</sup>

In short, the record demonstrates that it would not be in the public interest to stifle investment in the development of multiple AVM systems and technologies by adopting permanent rules of the sort proposed by PacTel. Such rules would freeze technological development in its infancy by making the inferior Ameritech and PacTel systems the de facto technological standard. To the contrary, rules that recognize the important role to be played by developers of alternative robust, spectrally efficient AVM technologies, such as Pinpoint, should be implemented. Consistent with longstanding Commission policies, competition and marketplace demand -- not regulatory fiat -- should dictate which technologies survive.

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<sup>36</sup> Statement in Opposition to Petition for Rulemaking of the AAR, RM No. 8013, filed July 23, 1992, at 5.

<sup>37</sup> Comments of Amtech Logistics Corporation, RM No. 8013, filed July 23, 1992, at 3.

### **III. IN CONTRAST WITH AN EXCLUSIVE AVM LICENSING SCHEME, MULTIPLE ENTRY PROVIDES STRONG DISINCENTIVES FOR SPECTRUM SPECULATION**

The most outrageous claim made by Ameritech is that those entities that had not applied for AVM licenses prior to the filing of the PacTel petition inherently are not "committed to the development of AVM technology."<sup>38</sup> According to Ameritech, such entities are, in a word, "speculators."

Such attempts to play on legitimate agency concerns do not comport with reality. The AVM marketplace is still relatively immature, and the multiple entry, shared-spectrum environment created by the interim rules requires rigorous technical solutions, especially for wideband AVM systems. Thus, it is not at all surprising that certain entities, such as Pinpoint and others, have made a substantial investment in the design and development of robust AVM systems but have not yet applied for licenses.

As Pinpoint detailed in its Opposition, it is the contrary approach taken by PacTel and Ameritech that amounts to little more than spectrum speculation.<sup>39</sup> As shown in Attachment A hereto, both entities have secured licenses in several hundred locations, including every single top-50 market.<sup>40</sup> It is thus PacTel and Ameritech,

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<sup>38</sup> Comments of Ameritech at 18.

<sup>39</sup> Opposition at 22-25.

<sup>40</sup> See Attachment A hereto. PacTel has proposed that no co-channel license be granted within 110 miles of the locations shown on existing licenses. PacTel Petition at 31. A few fixed stations scattered in each of those fifty areas, therefore, would foreclose competitive service to over half the population. See U.S. Bureau of the Census, Statistical Abstract of the United States: 1991, at 2, 906-12 (111th ed. 1991).

not some hypothetical bogeymen, that have speculated in spectrum in an attempt to lock-up service throughout the urban United States.

With each entity having such an inordinate number of licenses, it would be reasonable to expect that they have a number of systems in operation. Ameritech, however, has not a single one.<sup>41</sup> PacTel unabashedly states in its petition that only four are in place with two more forthcoming.

This does not fully describe the embarrassingly low level of commitment on the part of the petitioner and Ameritech. In many of the top 50 markets, the entities do not even have sufficient fixed station licenses to provide coverage for even the crudest of AVM operations. In the Detroit area, for example, the fifth largest MSA, Ameritech is licensed for only one fixed station. Similarly, in Atlanta, the seventeenth largest MSA, Ameritech is licensed for only three fixed stations. It would be impossible to provide radio coverage over these MSAs with such poor service. As a result, the only purpose that such authorizations could serve in an exclusive licensing environment is to freeze out new entrants into the AVM market. Examples like these make clear, in themselves, the speculative and anti-competitive nature of PacTel's and Ameritech's campaign to hoard spectrum.<sup>42</sup>

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<sup>41</sup> In light of this fact, it is ludicrous for Ameritech to suggest that it has "implemented wideband AVM systems." Comments of Ameritech at 17.

<sup>42</sup> Pinpoint submits that if the Commission adopts rules giving wideband licensees the exclusivity that PacTel and Ameritech request, licensees should be subject to meaningful capacity and performance criteria to determine if they in fact qualify for exclusivity and if they meet the construction deadlines. Indeed, in markets where insufficient fixed site authorizations have been granted to support a certain level and quality of multilateration service, exclusivity should not be granted. Where it is granted,  
(continued...)

Most indicative of their strategy of speculation, however, these two parties want ex post facto exclusivity. As Pinpoint noted in its Opposition, granting this request would convert their license grant dates into cut-off dates.<sup>43</sup>

The more than one thousand licenses held by these two entities were issued pursuant to a shared spectrum licensing scheme. Both PacTel and Ameritech have sought and received five-year construction schedules. Now they boldly ask that the already extended schedule be lengthened by an additional five years (ten total) in conjunction with their request for exclusivity. If, in a shared spectrum environment, five years was sufficient, why do they now seek ten years? Ameritech and PacTel have failed to provide any answer. Presumably construction would be easier in an exclusive environment than in the current shared regime. Their requests, therefore, only further illustrate their speculative ambitions.

Regarding the construction schedule, Ameritech takes its speculative and anti-competitive posture a step further than PacTel. PacTel proposes a ten-year construction schedule for licensees with authorizations in ten or more markets. This in itself should not be adopted, given the obvious prospects for the delay in the

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<sup>42</sup>(...continued)

licensees must meet strict construction benchmarks or deadlines (depending on the number of systems that they are authorized to build), with waivers being granted very rarely, if at all. Moreover, for a system to be "constructed", it should be operational and have a certain throughput capacity referenced to some meaningful criterion, the population of the market, for example. Failure to meet a construction deadline or benchmark should result in the forfeiture of the licenses.

<sup>43</sup> As SWBell notes, perhaps understating the scope of the problem, if the PacTel proposal were adopted, "the FCC would basically preempt any other operators [from] entering the AVM business" in many large metropolitan areas. Comments of SWBell at 7.

introduction of AVM service while other entities willing to construct are shut out. Ameritech, however, would grant only a three-year implementation schedule for licensees in 10-24 markets, with the longer, ten-year schedule reserved for those entities with authorizations in more than 25 markets. Of course, Ameritech would extend this privilege to "grandfathered" licenses, such as its own, despite their ex post facto assumption of exclusivity. Therefore, according to Ameritech, the more an entity was willing to speculate, the more the Commission should encourage the warehousing of spectrum. Such a result is totally at odds with the public interest.


In sum, the FCC should not countenance the "risks" that Ameritech and PacTel have taken on their assumption that the shared band could be converted to their own exclusive use. Rather, the Commission should recognize the serious commitment of AVM developers, such as Pinpoint and others, who have invested in technology designed to work in shared spectrum. Accordingly, permanent AVM rules that support competitive multiple entry as fostered under the current rules should be adopted; exclusive licenses should be avoided, as they would reward the very sort of speculation that incumbent licensees claim to abhor.

**IV. CONCLUSION**

For the foregoing reasons, and for those reasons set forth in its Opposition, Pinpoint respectfully submits that the FCC should dismiss or deny the PacTel Petition for Rulemaking.

Respectfully submitted,

**PINPOINT COMMUNICATIONS, INC.**

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**ATTACHMENT A**

**PACTEL  
AND  
AMERITECH  
AVM LICENSES IN THE TOP 50 MSAs**

**NOTE:** The data presented in this attachment are current as of May 29, 1992 and are based on records obtained from the Commission's data base contractor. The analysis shows where PacTel and Ameritech have at least one licensed AVM fixed/base station in any county in the top 50 MSAs as defined by the FCC. See *Common Carrier Public Mobile Services Information, Cellular MSA/RSA Markets and Counties*, Report No. 92-40, released January 24, 1992.



**PACTEL AND AMERITECH  
AVM LICENSES IN TOP 50 MSAs**

<b>MSA</b>	<b>908.000 MHz</b>	<b>922.000 MHz</b>
New York	PacTel	Ameritech
Los Angeles	PacTel	Ameritech
Chicago	PacTel	Ameritech
Philadelphia	PacTel	Ameritech
Detroit	PacTel	Ameritech
Boston	PacTel	Ameritech
San Francisco	PacTel	Ameritech
Washington, D.C.	PacTel	Ameritech
Dallas	PacTel	Ameritech
Houston	PacTel	Ameritech
St. Louis	PacTel	Ameritech
Miami	PacTel	Ameritech
Pittsburgh	PacTel	Ameritech
Baltimore	PacTel	Ameritech
Minneapolis	PacTel	Ameritech
Cleveland	PacTel	Ameritech
Atlanta	PacTel	Ameritech
San Diego	PacTel	Ameritech
Denver	PacTel	Ameritech
Seattle	PacTel	Ameritech
Milwaukee	PacTel	Ameritech
Tampa/St. Petersburg	PacTel	Ameritech
Cincinnati	PacTel	Ameritech
Kansas City	PacTel	Ameritech
Buffalo	PacTel	Ameritech
Phoenix	PacTel	Ameritech